



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,329	02/13/2004	Sebastien A. Ramus	BEAER-67114	5251
24201	7590	07/06/2005	EXAMINER	
FULWIDER PATTON LEE & UTECHT, LLP HOWARD HUGHES CENTER 6060 CENTER DRIVE TENTH FLOOR LOS ANGELES, CA 90045			WEST, PAUL M	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 07/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

6n

Office Action Summary	Application No. 10/779,329	Applicant(s) RAMUS ET AL.	
	Examiner Paul M. West	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) 1-8, 23-33 and 49-54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-22 and 34-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's election with traverse of Group V, drawn to an apparatus for detecting liquid level with an optical system, in the reply filed on 17 June 2005 is acknowledged. The traversal is on the ground(s) that examining Group I with Group V would not cause undue burden on the examiner. This is not found persuasive because Group I contains a secondary level indicator device which is not confined to same class and subclass as Group V.

The requirement is still deemed proper and is therefore made FINAL.

Claim Objections

Claims 10, 15, 16, 35, 41, and 42 are objected to because of the following informalities: In claims 10 and 35 the phrase "said a light detecting device" does not make grammatical sense and should most likely read --said light detecting device--. In claims 15, 16, 41, and 42 the second instance of the word "housing" appears to be in error and should likely be omitted. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2856

Claims 9, 15, 16, 34, 41, and 42, are rejected under 35 U.S.C. 102(b) as being anticipated by Henry.

As to claims 9 and 34, Henry teaches an apparatus for detecting the level of the surface of a liquid in a container having an upper opening, the apparatus comprising: a support housing 10 mated with the upper opening 16 of the container; an optical sensor device mounted in support housing, which includes a light emitting device 20 for projecting incident light 24 on the surface 12 of the liquid 14 and a light detecting device 22 for detecting said incident light 42 reflected from the surface 12 of the liquid 14; and protective lenses (Col. 4, lines 34-35) placed in front of the light emitting device 20 and light detecting device 22 (Col. 4, lines 45-50).

Note that although the preamble of claim 34 identifies the claimed apparatus as a server container, all of the structural limitations are identical to claim 9 and none of these limitations limit the apparatus to a server container.

As to claims 15, 16, 41, and 42, Henry teaches the protective lenses being permanently and hermetically secured on (Col. 5, lines 7-8) and incorporated in (Col. 4, lines 34-38) the support housing.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-14, 17-19, 35-40, and 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henry in view of Skell et al.

As to claims 10 and 35, Henry teaches all the limitations as set forth above and further teaches the light detecting device comprising a phototransistor (Col. 2, lines 41-43). Henry does not teach the light emitting device comprising an infrared emitting diode. Skell et al. teaches an optical liquid level sensing apparatus that uses an infrared emitting diode as the light emitting device (Col. 5, lines 42-43). It would have been obvious to one of ordinary skill in the art to employ the infrared light emitting device of Skell with the apparatus of Henry because, as Skell states, the components for infrared light sensors are readily available and inexpensive (Col. 6, lines 44-46).

As to claims 11-14 and 36-40, Henry does not teach the light emitting device and light detecting device being positioned to emit and receive light at any specific angles that are 10° to 80° off vertical. However, Skell et al. teach the light emitting device and light detecting device being positioned to emit and receive light at an angle 20° off vertical (Col. 5, lines 63-64). Skell et al. further teach that this angle may vary widely as it is a function of the distance between the light emitting device and light detecting device and the height of the sensor assembly above the container of liquid (Col. 6, lines 6-12). Therefore it would have been obvious to one of ordinary skill in the art to employ the teachings of Skell with the apparatus of Henry and position the light emitting device and light detecting device at any angle(s) that would be most suitable for the particular dimensions and application of the apparatus because this would provide optimum performance.

Art Unit: 2856

As to claims 17-19 and 43-45, the combination of Henry and Skell et al. does not teach the protective lenses being inclined at a specific angle, however it would have been obvious to one of ordinary skill in the art to tilt the lenses in conjunction with the light emitting device and light detecting device such that light passing through the lenses is normal to the surface of the lenses because this would prevent internal reflection and minimize distortion caused by refraction.

Claims 20, 21, 46, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henry in view of Morikawa et al.

As to claims 20, 21, 46, and 47, Henry teaches all of the limitations as set forth above but is silent as to the contents of the volume defined by the protective lenses, light emitting device, and light detecting device. Morikawa et al. teach a light emitting device enclosed in a housing which is either filled with dry gas (Par. 0022) or in a state of vacuum (Par. 0023). It would have been obvious to one of ordinary skill in the art to employ the teachings of Morikawa with the apparatus of Henry because filling the said volume with a dry gas or a vacuum would prevent oxidation and corrosion of the sensitive parts of the light emitting device and light detecting device.

Claims 22 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henry in view of Yeh et al.

As to claims 22 and 48, Henry teaches all of the limitations as set forth above but is silent as to the contents of the volume defined by the protective lenses, light emitting

Art Unit: 2856

device, and light detecting device. Yeh et al. teach a light emitting device 10 which defines a volume with part of a housing 30, the volume being filled with a solid translucent material 20. It would have been obvious to employ the teachings of Yeh with the apparatus of Henry because filling the said volume with a solid translucent material would add rigidity to the structure of the light emitting device and light detecting device, and would serve to further protect their components.

Conclusion

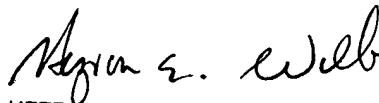
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shapiro (3,751,656) and Bruhl et al. (4,873,863) both use reflected light to detect liquid level.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul M. West whose telephone number is (571) 272-8590. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2856

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800